



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/659,901

09/11/2003

Ken Gary Pomaranski

200310430-1

5950

22879

7590

11/16/2006

HEWLETT PACKARD COMPANY
P O BOX 272400, 3404 E. HARMONY ROAD
INTELLECTUAL PROPERTY ADMINISTRATION
FORT COLLINS, CO 80527-2400

EXAMINER

BRITT, CYNTHIA H

ART UNIT

PAPER NUMBER

2138

DATE MAILED: 11/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/659,901

Applicant(s)

POMARANSKI ET AL.

Examiner

Cynthia Britt

Art Unit

2138

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18,21-59 and 63 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18,21-59 and 63 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 2138

DETAILED ACTION

Claims 1-18, 21-59, and 63 are pending in the present application.

Response to Arguments

Applicant's arguments with respect to claims 1-18, 21-59, and 63 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

Art Unit: 2138

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-18, 21-59, and 63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gerchman et al. U.S. Patent No 6,292,869.

As per claims 1, 34, 52, 56, 57, and 63, Gerchman et al. substantially teach the claimed system method and computer readable medium in which is provided for scrubbing computer storage. Upon detecting an interval of storage inactivity, external storage refresh commands are inhibited and the storage is placed in self timed refresh (STR) mode. Upon detecting storage activity while storage is in STR mode, STR mode is terminated. Upon detecting a scrub request while storage is in STR mode, STR mode is terminated and thereafter the scrub request is executed. Upon completing execution of the scrub request, storage is returned to STR mode. (Column 1 line 60 through column 2 line 2) Not disclosed by Gerchman et al. is that the scrub logic is configured to selectively mirror the main memory. However the memory controller places SDRAM memory into STR mode after an interval of inactivity to save power, and also periodically scrubs memory by generating period requests to read memory contents, correct any soft errors, and write back the corrected data to memory to reduce the risk of accumulated soft errors resulting in uncorrectable errors in memory data (column 2 lines 33-40 Figure 1). It would have been obvious to a person having ordinary skill in the

Art Unit: 2138

art at the time this invention was made that there must be some "selectively mirrored" memory element used in order to read to and write from during the scrubbing process.

As per claims 2, 16, 17, 33, 35, 50, and 51, the examiner would like to point out that the placement of a device in an ASIC, computer or an image forming device would have been an obvious design choice as all were well known in the art at the time this invention was made. (Column 4 lines 42-52)

As per claims 3, and 36, Gerchman et al. teach the memory access logic comprises a SDRAM. (Column 2 line 23-26) The examiner would like to point out that a SDRAM is a functional equivalent to PROM and is therefore an obvious design choice as both were well known in the art at the time this invention was made.

As per claims 4, 7, 8, 21, 24, 26, 37, 40, and 45, Gerchman et al. teach previous STR & Scrub remembers that SDRAMs were previously in the STR mode and that a scrub has just completed and then controls putting the SDRAMs back into STR mode if there are no new read or write requests coming from queue (column 3 lines 24-30).

As per claims 5, 10, 22, 27, 38, and 43, Gerchman et al. teach memory (which would include registers), which would be a functional equivalent of a register and is therefore an obvious design choice as both were well known in the art at the time this invention was made (see rejection of independent claims above column 2 lines 33-40).

As per claims 6, 11, 14, 23, 28, 30, 39, 44, 46, and 47, the examiner would like to point out that it is well known in the art for an internal memory element to be readable and writable by an external application.

As per claims 9, 18, 25, 29, 31, 32, 41, 42, 49, and 53-55, Gerchman et al. teach memory controller places SDRAM memory into STR mode after an interval of inactivity to save power, and also periodically scrubs memory by generating period requests to read memory contents, correct any soft errors, and write back the corrected data to memory to reduce the risk of accumulated soft errors resulting in uncorrectable errors in memory data. Thus, the purpose of the scrubbing preformed is to detect and correct errors (column 3 lines 42-46, column 2 lines 33-40).

As per claims 15, 31, and 48, Gerchman et al. teach that upon detecting an interval of storage inactivity, external storage refresh commands are inhibited and the storage is placed in self timed refresh (STR) mode. Upon detecting storage activity while storage is in STR mode, STR mode is terminated. Upon detecting a scrub request while storage is in STR mode, STR mode is terminated and thereafter the scrub request is executed. Upon completing execution of the scrub request, storage is returned to STR mode. Therefore, the operation is transparent (column1 line 60 through column 2 line 2, column 4 lines 1-10).

Conclusion

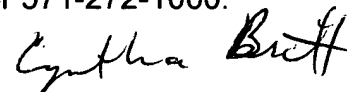
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia Britt whose telephone number is 571-272-3815. The examiner can normally be reached on Monday - Thursday.

Art Unit: 2138

The examiner suggests that applicant call and set up an interview in order to clarify the substance of the claimed invention.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on 571-272-3819. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Cynthia Britt
Primary Examiner
Art Unit 2138